

S/048/60/024/05/07/009
B006/B017

AUTHORS: Rebane, K. K., Sil'd, O. I.

TITLE:

Computation of the Probabilities of Electron-vibrational
Transitions for an Anharmonic Oscillator

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 5, pp. 539-544

TEXT: The present article is a reproduction of a lecture delivered at the Eighth Conference on Luminescence (Minsk, October 19-24, 1959). It was written in continuation of a previous paper in which the authors calculated the probability distribution W_{nm} of electron-vibrational transitions with respect to the vibrational levels by the quantum-mechanical method, and in which they compared them with the results offered by three variants of semiclassical calculation methods. The results of this paper were taken as a basis, i.e., $W_{nm} = [I_{nm}^{(0)}]^2$ was calculated for a

Card 1/3

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Computation of the Probabilities of Electron-
vibrational Transitions for an Anharmonic
Oscillator

S/048/60/024/05/07/009
B006/B017

Morse oscillator. First, expression (5) is deduced for $I_{nm}^{(0)}$, and for the hypergeometric series $F(\alpha, \beta, \gamma, z)$ occurring in it recurrence formula (6) is given. From these formulas the following distribution W_{nm} is calculated: $n = 0 \rightarrow m = 0 \div 30$; $n = 1 \rightarrow m = 0 \div 35$ for $a = +\sqrt{15} x_0$ (absorption) and for $a = -\sqrt{15} x_0$ (emission): $n = 0 \rightarrow m = 0 \div 12$; $n = 1 \rightarrow m = 0 \div 14$. ($x_0 = \sqrt{\hbar/\mu\omega}$). The Morse oscillator has the parameters $D = D' = 83.25 \hbar\omega$ and $gx_0 = 1/\sqrt{2 \cdot 83.25}$. Results are shown in Figs. 1-3. Fig. 1 shows a Morse oscillator and the probability distribution $W(E)$ of electron-vibrational transitions from the vibrational level $n = 0$ for various types of transition for the case $a = \sqrt{15} x_0$; Fig. 2 shows $W(E)$ for transitions from the levels $n = 0, 1$ for $a > 9$ and gives a comparison of the quantum-mechanically and semiclassically calculated functions; Fig. 3 presents $W(E)$ in a continuous energy scale for transitions from

Card 2/3

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Computation of the Probabilities of Electron-
vibrational Transitions for an Anharmonic
Oscillator

S/048/60/024/05/07/009
B006/B017

$n = 0$ for $a > 0$ and $a < 0$. In conclusion, the authors thank B. I. Stepanov for his interest and discussions; furthermore, A. Purgau, Diploma Candidate of TGU and V. Khizhnyakom for their assistance in the calculations. N. G. Bakhshiyev, A. M. Ratner and G. Ye. Zil'berman are mentioned. There are 3 figures and 20 references: 15 Soviet, 2 American, 1 Italian, 1 German, and 1 British.

ASSOCIATION: Tartuskiy gos. universitet Institut fiziki i astronomii
Akademii nauk EstSSR (Tartu State University, Institute
of Physics and Astronomy of the Academy of Sciences of
the Estonskaya SSR)

Card 3/3

✓C

31137

S/058/62/000/004/007/160
A058/A101

AUTHORS: Rebane, K. K., Sil'd, O. I., Khizhnyakov, V. V.

TITLE: Note concerning the description of transition probabilities by the moment method

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 23, abstract 4A181
("Tr. In-ta fiz. i astron. AN EstSSR", 1961, no. 13, 112 - 114)

TEXT: The authors consider the application of the moment method for describing the distribution of transition probabilities from initial state i to all other states f (including $f = i$) of a quantum-mechanical system. Two methods for averaging moment operator \hat{S}_1 (of order 1) are considered. In the first method, averaging is effected on the basis of wave functions ψ_i of a fixed initial state of the system:

$$S_1^{(1)} = \int \psi_i^* \hat{S}_1 \psi_i d\tau;$$

in the second method, instead of the wave function a density matrix figures:

$$S_1 = \sum_i w_i \int \psi_i^* \hat{S}_1 \psi_i d\tau = \text{Sp}[\hat{S}_1 \hat{\rho}],$$

Card 1/2

Note concerning the...

S/058/62/000/004/007/160
A058/A101

where ρ_i is the probability of finding the system in state i , and $\hat{\rho} = \exp(-\hat{H}/kT) / \text{Sp}[\exp(\hat{H}/kT)]^{-1}$ is the density matrix (the case of thermal equilibrium). It is noted that incident to averaging by the first method it is possible to determine the distribution of transition probabilities without knowing the wave functions of finite states or the energy spectrum of the system, while incident to averaging by the second method it is not even necessary to know the initial wave functions; in virtue of the invariance of the matrix trace, the calculation can be carried out using any suitable system of orthonormalized functions.

[Abstracter's note: Complete translation]

Card 2/2

S/613/61/000/014/002/019
D207/D301

24.3500

AUTHORS: Rebane, K. K., Purga, A. P., Sil'd, O. I., and Kizhnyakov, V. V.

TITLE: On the theory of electronic-vibrational transitions in crystals and molecules. I. The method of moments

SOURCE: Akademiya nauk Estonskoy SSR. Institut fiziki i astronomii. Trudy. No. 14, 1961. Issledovaniya po lyuminesentsii, 31-47

TEXT: The authors consider emission and absorption of light by a general quantum system. The general form of the formula of moments, giving the distribution of transition probabilities, is derived quite simply. In the case of a luminescence center in the adiabatic approximation the general formula is shown to reduce to the well-known equations of M. Lax (Ref. 1: J. Chem. Phys., 20, 1752 (1952)). The authors consider three ways of applying the moment formula to profiles of continuous electronic-vibrational spectra. Edgworth's formula (given by Lax in Ref. 1) is used to show that the theorem
Card 1/2

S/613/61/000/014/002/019

On the theory of electronic-vibrational...D207/D301

tical band profile, found using first moments, agrees well with an experimentally determined luminescence band of KCl:Pb peaked at 3.6 eV. There are 1 figure and 15 references: 9 Soviet-bloc and 6 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: M. Lax, J. Chem. Phys., 20, 1752 (1952); G. Russell and C. Klick, Phys. Rev., 101, 1473 (1956); J. P. Vinti, Phys. Rev., 41, 432 (1932); R. C. O'Rourke, Phys. Rev. 91, 265 (1953).

SUBMITTED: July 16, 1960

Card 2/2

S/613/61/000/014/003/019
D207/D301

24.3500

AUTHORS: Rebane, K. K., Purga, A. F., Sil'd, O. I., and Khizhnyakov, V. V.

TITLE: On the theory of electronic-vibrational transitions in crystals and molecules. II. Results of calculations for different models

SOURCE: Akademiya nauk Estonskoy SSR. Institut fiziki i astronomii. Trudy. No. 14, 1961. Issledovaniya po lyuminestsentsii, 48-75

TEXT: The authors apply the results obtained in Part I [Abstractor's note: See preceding article of this journal] to several theoretical models of vibrating systems, e.g. a luminescence center in a crystal or an isolated molecule. M. Lax's method-of-moment calculations (Ref. 1: J. Chem. Phys., 20, 1752, 1952) are used. The first four moments of an electronic vibrational band in the Condon approximation are found for the following: Single harmonic oscillator; a set of independent harmonic oscillators; a single anharmonic oscillator with anharmonicity of vibrations taken into account in Card 1/3

On the theory of electronic-vibrational.. S/613/61/000/014/003/019
D207/D301

the initial and final electronic states; a system of anharmonic oscillators with anharmonicity of the final electronic state taken into account. The Condon approximation restricts the results to the case when matrices of the electron transitions are independent of the vibrational coordinates. This restriction is removed in the latter part of the article and the authors consider (1) a single harmonic oscillator and (2) a set of independent harmonic oscillators. In case (1) the first four moments of an electronic-vibrational band are calculated with the electron matrix elements depending exponentially on the vibrational coordinate. In case (2) the first three moments of an electronic-vibrational band are calculated with the electron matrix element depending exponentially on the vibrational coordinate. Direct comparison of quantum-mechanical results for many-coordinate and quasimolecular (one or several effective coordinates) models of luminescence centers give the limits of applicability of the quasimolecular model. Acknowledgment is made to N. N. Kristofel' and I. V. Aberenkov for discussion of the results reported. There are 1 figure, 1 table and 39 references: 23 Soviet-bloc and 16 non-Soviet-bloc. The 4 most recent references to

Card 2/3

On the theory of electronic-vibrational. ^{S/613/61/000/014/003/019}
D207/D301

the English-language publications read as follows: J. J. Markham, Rec. Mod. Phys., 31, 956 (1959); R. Knox, Phys. Rev., 115, 1095 (1959); M. Lax, Photoconductivity Conference (ed. by R. G. Breckenridge), New York, 1956, p. 111; T. Kojima, J. Phys. Soc. Japan, 12, 908, 918 (1957).

SUBMITTED: July 16, 1960

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Card 3/3

22189

24,4500

S/048/61/025/004/038/048

24,3500

B117/B212

AUTHORS: Rebane, K. K. and Sil'd, O. I.

TITLE: Theory of electron-vibrational transitions in crystals and molecules

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 535-537

TEXT: The present paper was read at the 9th Conference on Luminescence (crystal phosphors). The authors have derived the following formula to find the moment of first order of the transition-probability distribution

in any quantum system: $S_1 = \sum_{p=0}^1 (-1)^p \binom{1}{p} \int (\hat{P} \Psi_n)^* \hat{H}_{II}^{1-p} \hat{P} \hat{H}_I^p \Psi_n d\tau (1)$, where

\hat{P} denotes the operator causing a disturbance of the transition; \hat{H}_I and \hat{H}_{II} Hamilton operator for the initial resp. final state; Ψ_n the wave function

of the initial state. Results for various concrete systems, especially for atoms, molecules and crystals can be found with this formula. The

Card 1/3

22189

Theory of electron-vibrational...

S/048/61/025/004/038/048
B117/B212

application of formula (1) in dipole approximation for the atom at $l = 1$ will yield the known f sum rule of Thomas-Reiche-Kuhn and at $l = 2, 3, 4$ the sum rule of J. Vinti (Ref. 2: Phys. Rev., 41, 432 (1932)). Dropping the dipole approximation will result in a generalization of the results mentioned. If a molecule or a luminescence center is considered in a crystal then the adiabatic approximation is introduced. Here, formula (1) will be of the following form for the transition from an electron state n

to that of n' : $S_1 = \sum_{p=0}^1 (-1)^p \binom{1}{p} \int \varphi_{n\alpha}^* M_{n',n}^p(\vec{R}) \hat{H}_{n'}^{1-p} M_{n,n}(\vec{R}) \hat{H}_n^p \varphi_{n\alpha} d\vec{R}$ (2), where

$\varphi_{n\alpha}$ denotes the α th wave function in an electron state n ; $M_{n,n}(\vec{R})$ the electron matrix element of the $n \rightarrow n'$ transition depending on the nuclear coordinate \vec{R} . \hat{H}_n and $\hat{H}_{n'}$ denote Hamilton operators describing the nuclear vibration in the state n , resp. n' . Averaging formula (2) with respect to the vibrational states α of the initial electron state a formula is obtained for $n \rightarrow n'$ which corresponds to results of M. Lax (Ref. 3: J. Chem. Phys., 20, 1752 (1952)). The authors have calculated a number of various models for vibrational systems in cooperation with A. P. Purga and

Card 2/3

22189

Theory of electron-vibrational...

S/048/61/025/004/038/048
B117/B212

V. V. Khizhnyakov (Ref. 4: Tr. In-ta fiz. i astron. AN EstSSR, no. 14 (1961)), and by using the above formula. In order to compare theoretical and experimental results a more precise experimental determination of band contours is necessary. Quantum mechanics and other effects will appear more distinct with smaller Stokes' losses which are expressed in the vibration quantum number. Therefore, alkali-halide crystals of a low atomic weight, i.e., systems of the NaCl-Eu type, activated with rare earths, should be suitable to be used for a comparison with the theory. There are 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc.

Card 3/3

X

REBANE, K.K.; SIL'D, C.I.

Theory of oscillatory electron transitions in crystals and
molecules. Izv. AN SSSR. Ser. fiz. 25 no.4:535-537 Ap '61.
(MIRA 14:4)

(Crystals—Electric properties)
(Molecules)

ACCESSION NR: AT4020792

S/2613/63/000/023/0018/0021

AUTHOR: Rebane, K. K.; Sil'd, O. I.

TITLE: The theory of stimulated transitions in electron-vibrational bands

SOURCE: AN EstSSR. Institut fiziki i astronomii. Trudy*, no. 23, 1963.
Issledovaniya po lyuminescentsii (Research in luminescence), 18-21

TOPIC TAGS: electron vibration, electron band, electron transition, stimulated electron transition

ABSTRACT: Pointing out that, in previous works, attention has already been directed at the possibility of using the electron-vibrational transitions in the impurity centers of a crystal for the generation of light, the authors note that in these studies no allowance was made for the overlapping of the absorption and emission bands. The purpose, therefore, of this brief article is to provide in a clear form the existence criteria of negative temperatures at electron-vibrational band frequencies for a luminescence center in the crystal, the aforementioned overlapping being taken into account:

$$\frac{N_{II}}{N_I} \frac{Z_I}{Z_{II}} \exp \frac{h\nu_0 - h\nu}{kT} > 1.$$

Card 1/2

ACCESSION NR: AT4020792

The model considered (two electron levels, each having its own set of vibrational levels) is roughly equivalent to a four-level system, from the point of view of induced emission. A more accurate equivalent is a system with two infinite sets of levels, in which vibrational level relaxation until thermal equilibrium occurs with infinite speed. "The authors are grateful to B. I. Stepanov for his valuable advice, and also to A. P. Purga and V. V. Khizhnyakov for their discussion of the work." Orig. art. has: 4 formulas.

ASSOCIATION: Institut fiziki i astronomii AN EstSSR (Institute of Physics and Astronomy AN EstSSR)

SUBMITTED: 01Oct62

DATE ACQ: 07Apr64

ENCL: 00

SUB CODE: PH

NO REF SOV: 003

OTHER: 001

Card 2/2

SIL'D, O.I.

Theory of spectral bands of luminescence centers with a small
radius. Opt. i spektr. 15 no.4:478-485 0 '63. (MIRA 16:11)

KRISTOFEL', N.N.; REBANE, K.K.; SIL'D, O.I.; KHIZHNYAKOV, V.V.

Causes of the difference between the half-width of the absorption and emission bands of crystal phosphors. Opt. i spektr. 15 no.4:569-572 U '63. (MIRA 16:11)

L 27815-65 EWT(1)/EEC(t) Feb IJP(c)
ACCESSION NR: AP5007272

S/0023/64/000/003/0165/0176

AUTHOR: Rebane, K. (Corresponding member AN EstSSR); Sil'd, O.

TITLE: Theory on the width of a pure electron line and a Mossbauer line of a free molecule

13 SOURCE: AN EstSSR, Izvestiya. Soriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 3, 1964, 165-176

TOPIC TAGS: molecular spectroscopy, line width, line spectrum, line intensity, molecule

Abstract: In this paper the authors examine the effect of translating, rotating, and oscillatory motion on the width of a pure electron line and a Mossbauer line in the spectrum of a free molecule. It is shown that the line width associated with the translating and rotating motions decreases with an increase in the mass m of the molecule. The line width resulting from the translating motion is proportional to $\sqrt{KT/m}$ (T is the absolute temperature) and to the energy of the absorbing or emitting quanta. The line width associated with the rotation is also proportional to $\sqrt{KT/m}$ and inversely proportional to the radius of gyration of the molecule. The line width in the spectrum of a sufficiently heavy molecule is therefore determined by the translating motion.

Card 1/1

L 27815-65

ACCESSION NR: AP5007272

The form of oscillation in the spectrum of a free molecule is similar to that of the center of luminescence in the crystal. Hence it may be concluded that the relative intensity of a pure electron or Mossbauer line decreases rapidly (exponentially) with an increase in Stokes-loss (or with an increase in the reaction energy).

The pure electron line (half width $<10^{-3}\text{cm}^{-1}$) can be observed under the following conditions: 1) sufficient energy to isolate the electron level, 2) small Stokes-loss, 3) sufficiently heavy molecule ($>10^3 m_H$, where m_H is the mass of the hydrogen atom). To observe the Mossbauer line (half width $<10^{-3}\text{cm}^{-1}$) an extremely heavy molecule ($>10^{10} m_H$) is necessary even for very weak γ -quanta. The author expresses his thanks to

V. V. Khizhnyakov for his helpful suggestions. Orig. art. has 19 formulas and 1 graph.
ASSOCIATION: Institut fiziki i astronomii Akademii nauk Estonakoy SSR (Institute of Physics and Astronomy, Estonian Academy of Sciences, SSR)

SUBMITTED: 05Feb64

ENCL: 00

SUB CODE: OP, NP

NO REF SOV: 015

OTHER: 003

JPRS

Card 2/2

L 60919-65 EWT(i) IJP(c)

ACCESSION NR: AT5013530

UR/2613/64/000/026/0025/0037

AUTHORS: Rebane, K. K.; Sil'd, O. I.

TITLE: The Franck-Condon principle and the Mossbauer effect

SOURCE: AN EstSSR. Institut fiziki i astronomii. Trudy, no. 26, 1964, Issledovaniya po lyuminesentsii (Research on luminescence), 25-37

TOPIC TAGS: Franck-Condon principle, Mossbauer effect, electron vibrational transition, nuclear vibrational transition, Mossbauer line intensity

ABSTRACT: The purpose of the article is to reformulate the Franck-Condon principle (FCP) in a manner making it possible to apply it to several problems connected with the Mossbauer effect. To this end, an analysis is presented of the FCP with allowance for the recoil momentum and for the change in the mass of the nucleus. The effect of the recoil energy on the probability of nuclear-vibrational transitions is then analyzed, using a very simple model of vibrational

Card 1/2

L 60919-65

ACCESSION NR: AT5013530

system consisting of a single harmonic oscillator. This is equivalent to analyzing the Mossbauer effect with the aid of the FCP on the basis of a quasimolecular model for a single normal oscillation mode. Special emphasis is placed on the FCP concept that the momentum of the vibrating system decreases by an amount equal to the radiated photon momentum or increases by the amount of the absorbed photon momentum. The analysis shows that the FCP can be successfully used for a qualitative interpretation of the Mossbauer effect, and is also useful for a rough estimate of the integral intensity of the Mossbauer line. The main features of the Mossbauer effect can be easily understood by supplementing the FCP concepts with an analysis of the factors affecting the width of the lowest vibrational state of the system. Orig. art. has: 4 figures and 10 formulas

ASSOCIATION: Institut fiziki i astronomii AN EstSSSR (Institute of Physics and Astronomy, AN EstSSSR)

SUBMITTED: 15Jun63

ENCL: 00

SUB CODE: NP, GP

NR REF SOV: 012

OTHER: 010

Card 2/2

L 23515-66 EWT(1)/T IJP(c) GG

ACC NR: AT6008331

SOURCE CODE: UR/2613/64/000/027/0023/0056

AUTHOR: Rebane, K. K.; Sil'd, O. I.; Tekhver, I. Yu.

57

ORG: none

B+1

TITLE: Vibrational electron bands of a luminescence center with regard to anharmonicity of vibrations

SOURCE: AN EstSSR. Institut fiziki i astronomii. Trudy, no. 27, 1964. Issledovaniya po teorii tverdogo tela (Research on the theory of solids), 23-56

TOPIC TAGS: luminescence center, crystal theory, energy band structure, harmonic analysis, vibration spectrum, vibration

ABSTRACT: The authors calculate the moments S_l for probability distribution of vibronic transitions of order $l = 0, 1, 2, 3$ and 4 for a luminescence center in a crystal. The adiabatic potentials of the ground and excited electron levels of the luminescence center are given in the form of expansions in power series including anharmonicity of the third and fourth orders. The electron matrix element is accounted for as a function of the vibrational coordinates together with the anharmonicity of the adiabatic potentials. Some of the results are compared with experimental data in the literature. An analysis of the resultant expressions for the moments indicate that vibrational anharmonicity may be definitive in the following effects: 1. a temperature

2

Card 1/2

L 23515-66

ACC NR: AT6008331

shift in the first moment of the band; 2. a deviation in the temperature relationship of the half-width of the band δ from the law $\delta \sim \sqrt{T}$; 3. the sign of asymmetry of the band. The basic effect which shows the relationship between M and the vibrational coordinates is an increase in the intensity of the integral band with temperature. This relationship does not show up in any other clearly pronounced singularities in the behavior of a band corresponding to a center where the Stokes losses are high. Orig. art. has: 16 formulas.

SUB CODE: 20/

SUBM DATE: 06Nov63/

ORIG REF: 045/

OTH REF: 021

Card 2/2

L 23689-66 EWT(1) IJP(c)

ACC NR: AR6005202

SOURCE CODE: UR/0058/65/000/009/D058/D058

SOURCE: Ref. zh. Fizika, Abs. 9D461

AUTHORS: Sil'd, O. I.

TITLE: On the temperature dependence of the parameters of the model of oscillations of a luminescence center

REF SOURCE: Tr. In-ta fiz. i astron. AN EstSSR, no. 29, 1964, 66-75

TOPIC TAGS: luminescence center, temperature dependence, crystal lattice vibration

TRANSLATION: The author establishes the temperature dependence of the effective frequencies of the model of oscillations of the luminescence center in a crystal. This dependence is determined by the width of the frequency interval of the wave packet from the normal oscillations, in terms of which the oscillation of the model is represented.

SUB CODE: 20

Card 1/1 fv

PORA, Eugen, academician; ABRAHAM, Alexandru; TOMA, Virgil; SILDAN, Nina

Progesterone action on the quantity of nucleic acid in the thymus and spleen of white rats. Comunicarile AR 13 no.11: 977-980 N'63.

1. Universitatea "Babes-Bolyai" Cluj, Catedrele de fiziologia animalelor si chimia generala.

FORA. Eugen A., acad.: ABRAHAM, Alex., ILLIEN, Nina

Action of the progesterone derivatives on the nucleic acids in
the thymus and spleen. Studii cerc biochimie 7 no.2:155-159 '64.

1. Section of Comparative Animal Physiology, Rumanian Academy,
Cluj Branch. Submitted October 10, 1963.

LOLOV, V., dots.; SILDAREV, N.; KOLAROV, P.; MALAMOV, M., ZHELIAZKOV, T.

Verification of myocardial lesions in rheumatism with the aid of precordial leads. Suvrem.med., Sofia 6 no.3:47-50 1955.

1. Iz Klinikata po bolnichna terapiia pri Visshia meditsinski institut V.Chervenkov - Sofia (sav. katedrata: prof. Al.Pukhlev)
(ELECTROCARDIOGRAPHY, in various diseases,
rheum. heart dis., precordial leads)
(RHEUMATIC HEART DISEASE, diagnosis,
ECG, precordial leads)

SILDE, O.; RELVIK, H.

[Elements of vector analysis; an outline] Vektoranalüüsi
algused; konsept. Tallinna Polütehniline Instituut, 1963. 77 p.
[In Estonian] (MIRA 17:7)

KILVIE, H.; SILDE, O.

[Kinetic moment of systems; principal moment of
momentum, Süsteemi kineetiline moment; liikumishulka-
de moment. Tallinn, Tallinna Politehniline Instituut,
1963. 100 p. [In Estonian] (MIRA 17:6)

SIL'DE, O.M.

SIL'DE, O.M.: "Integral formulas of spatial derivatives". Tartu, 1955. Min Higher Education USSR. Tartu State U. (Dissertations for the degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya Letopis' No. 10. 10 December 1955. Moscow.

SILDIAJEVA, R. -

Neurohumoral effects on serum cholesterol in the rabbit. Activ.
nerv. sup. 4 no.2:177-178 '62.

1. Ustav hygieny a epidemiologie lekarske fakulty Palackeho university,
Olomouc.

(CHOLESTEROL blood) (CORTICOTROPIN pharmacol)
(SOMATOTROPIN pharmacol)

SIL'DOYA, L.; SIPOVSKIY, G. (g. Kokhtla-Yarve)

Roofing materials with a base of Baltic shale tars. Stroi.mat.

3 no.11:29 N '57.

(MIRA 10:12)

(Roofing, Bituminous)

USSR/General Problems of Pathology - Pathophysiology of the
Infectious Process

U.

Abs Jour : Ref Zhur - Biol., No 2, 1959, 8662

Author : Sildver, L.

Inst : Tartu University

Title : Chloride Concentration in Spinal Fluid and Blood of
Children Sick With Tuberculous and Virus Meningitis

Orig Pub : Uch. zap. Tartusk. un-ta, 1957, No 58, 165-174

Abstract : Sixteen children with tuberculous meningitis (TM) were
examined and six with virus meningitis (VM) and two
with tuberculous toxallergic meningitis (TAM). The
chloride concentration in the spinal fluid in TM pa-
tients was decreased beginning with the first week of
the disease; in VM it was normal. In TM a hypochloremia
was noted. There is no parallelism between the chloride

Card 1/2

CHIRILEI, H.; DOROBANTU, N.; SILE, Elena

Determination of the degree of frost resistance of some new kinds of fall corn by the cytophysiological method. Studii cerc biol veget 12
no.1:99-106 '60. (EEAI 10:1)

1. Comunicare prezentata de N.Salageanu, membru corespondent al Academiei Republicii Populare Romine.
(Rumania--Corn (Maize))

100, 100, 100

is a function of the ratio of the area of the circle to the area of the square
which is approximately 0.7854 (28.27%)

111.111.1. /

RUMANIA/Plant Physiology - Growth and Development.

I-5

Abs Jour : Ref Zhur Biol., No 5, 1958, 19997

Author : Salageanu, N., Silceanu, I.

Inst :

Title : The Effect of some Chemicals on the Growth of Bean Roots.

Orig Pub : An. Univ. "G.I. Parhon". Ser. shtiinta. natur., 1956, No 11, 135-141.

Abstract : At the University of Bucharest the grafts of the Golden rain variety of Beans were treated with solutions of synthetic growth agents. After treatment the grafts were washed in water and then kept in spring water under glass covers in the greenhouse. When the grafts were treated with ethyl ether α -bromonaphthyl acetate in alcohol solutions the latter did not stimulate the formation of additional roots and increased the growth of the roots but little. The treatment with water solutions of methyl-

Card 1/2

K-5

Category : SILEIKA, A. USSR/Optics - Crystal Optics

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2323

Author : Sileika, A. Mikalkevich, M

Title : Temperature Dependence of the Absorption of Antimony Trisulfide in the Visible Region of the Spectrum

Orig Pub : Uch. zap. Vilyayusk. univ. Ser. matem. fiz. i khim. n., 1956, 5, 69-78

Abstract : Report on the results of an experimental investigation on the shift of the long-wave edge of the intrinsic-absorption band of antimony trisulfide in the temperature range from -50° to +200°. Thin (0.1 -- 0.7 micron) layers of antimony trisulfide were coated on glass liners heated to 230-250° by evaporation in vacuum. The absorption of these layers was investigated photoelectrically. The long-wave edge of the intrinsic-absorption band for non-crystallized layers of antimony trisulfide shifts 1.3 Å per degree toward the shorter waves when the temperature is reduced in the lower-temperature region, and shifts 2.0 Å per degree at higher temperatures. For crystallized layers, the shift of the edge reaches 2.9 Å/degree at lower temperatures and 1.9 Å/degree at higher temperatures.

An additional absorption band with a maximum in the vicinity of 630-650 millimicrons was observed on the long-wave edge of the intrinsic-absorption band of certain crystalline specimens of antimony trisulfide. The band becomes narrower when the temperature is reduced and the maximum shifts towards the

Card : 1/2

K-5

Category : USSR/Optics - Physical optics

Abs Jour : Ref Zhur - Fizika, No 1, 1957, N: 2323

shorter waves. Additional investigations are needed to explain the origin of this band. The shift of the edge of the intrinsic-absorption band of layers of antimony trisulfide upon change in temperature is explained in the article as resulting from two factors: the change in the lattice constant, and thermal oscillations of the ions. The two factors tend to shift the absorption band in opposite directions. It follows from the results obtained that the decisive factor influencing the change in the position of the long-wave edge of the intrinsic-absorption band of antimony trisulfide is the variation in the interaction between the electrons and the thermal oscillations of the lattice.

Card : 2/2

Temperature dependence of optical properties of antimony(III) sulfide layers. A. Libicki. *Leningradskiy Akad. Dzhizn Ser. B* 1980, No. 1, 107-117 (in Russian).
 —Results are presented on the investigation of absorption spectra of amorphous and polycryst. layers of Sb_2S_3 from 0.4 to 1.2 μ , in the temp. range from -150° to $+250^\circ$, on the dispersion of layers from 0.6 to 5.0 μ and on the temp. dependence of the refractive index from 0.6 to 2.2 μ at -150° to $+175^\circ$. The breadth of the forbidden zone of amorphous layers is 2.2 e.v. (of polycryst., 1.75 e.v.) at 290°K. Its temp. coeffs. are -5.8×10^{-4} and -4.1×10^{-4} e.v./deg., resp. Dispersion curves of the layers are described by $1/(n^2 - 1) = a - (b/\lambda^2)$. At $\lambda = 0.6 \mu$ $n = 2.66$ for amorphous layers and 3.5 for polycryst. layers. At $\lambda = 2.2 \mu$ $\Delta n/\Delta T = 1.9 \times 10^{-4} \text{ deg.}^{-1}$ for amorphous layers and at $\lambda = 1.1 \mu$ $\Delta n/\Delta T = 2.1 \times 10^{-4} \text{ deg.}^{-1}$ for polycryst. layers. There is qual. agreement between these results and the theory. A. Libicki

218
S/058/62/000/002/040/05-
AC01/A101

9.4179 (1051)

AUTHORS: Brazdžiūnas, P., Valacka, K., Šileika, A.

TITLE: On the origin of photo-emf in thin film Al-CdSe-Au systems in the infrared region of spectrum

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 37-38, abstract 2E346
("Uch. zap. Vil'nyussk. un-t. Matem., fiz.", 1960, v. 33, no. 9, 193-201, Lithuanian, Russian summary)

TEXT: Spectral distribution of photo-emf was investigated in thin film systems of Al-CdSe-Au at room and low (down to liquid nitrogen) temperatures. It was established that at room temperature photo-emf of these systems is detected already in the visible region of spectrum. The red edge lies at 800-1,000 mμ. In the low temperature region the spectral distribution of photo-emf changes essentially: the red edge of photo-emf is shifted to 2,500 mμ, and its sign is reversed. The photosensitivity of the systems in the infrared spectral region, as well as the sign reversal, indicate the existence of two mechanisms causing the origination of photo-emf. The results of investigations of the Au-CdSe-Al system and auxiliary systems Au-CdSe-Au and Al-CdSe-Al indicate

Card 1/2

On the origin of photo-emf ...

3/058/62/000/002/040/053
A001/A101

that two barrier layers operate simultaneously in the Al-CdSe-Au system. The barrier layer in the region of the Al-electrode contact contributes to emergence of photo-emf at room temperature in the visible spectral region. The barrier layer in the Au-electrode zone is very weakly developed at room temperature and practically does not affect the spectral distribution of photo-emf. In the region of low temperatures, the main role in originating photo-emf is played by the developing barrier layer at Au-electrode. Current carriers are produced by infrared light in the thin transition CdSe layer with Au impurity. The last hypothesis was confirmed by an investigation of spectral distribution of internal photoeffect in CdSe layers with Au impurity prepared by Vekshinskiy's method. Spectral distribution of photocurrent in these specimens at low temperatures was displaced into infrared spectral region. At room temperature, the spectral distribution of photocurrent of such specimens does not essentially differ from the spectral distribution of pure CdSe photocurrent. A marked absorption of light was discovered in infrared region of spectrum (of the order of 10^3 cm^{-1}) in CdSe specimens with Au impurity.

[Abstracter's note: Complete translation]

Card 2/2

ACC NR: AT6023224

SOURCE CODE: UR/2910/65/005/003/0395/0401

58
57
B+1

AUTHOR: Babonas, G. A. — Babonas, G.; Kavalyauskas, Yu. F. — Kavalyauskas, J.;
Shileyka, A. Yu. — Sileika, A.

ORG: Institute of Physics and Mathematics, Academy of Sciences Lithuanian SSR
(Institut fiziki i matematiki Akademiya nauk Litovskoy SSR)

TITLE: Investigation of the fundamental absorption edge of cadmium telluride under
hydrostatic pressures up to 6600 kg per sq cm

SOURCE: AN LitSSR. Litovskiy fizicheskii sbornik. v. 5, no. 3. 1965, 395-401

TOPIC TAGS: cadmium telluride, absorption edge, absorption spectrum

ABSTRACT: The effect of hydrostatic pressure on the edge of the fundamental absorption spectrum of single crystals of CdTe was investigated at room temperature. Specimens split off from single crystals and polished specimens 37—165- μ thick were used. The specimens were placed in a high-pressure chamber and the pressure was created by a manual hydraulic press. A thermocouple to monitor the temperature during the measurement cycle was inserted into the high-pressure cavity. It was found that with an increase of pressure the edge of the absorption spectrum shifted to the short-wave side without a noticeable change in its shape, i.e., a good coincidence of the curves obtained at different pressures can be obtained by a parallel shift along the x-axis. This was characteristic of all the investigated specimens. Thus it was not possible to note changes in the shape of the edge of the absorption spectrum of CdTe up to a

Card 1/2

Card

2/2 LC

SILENCHUK, N.A., kand.med.nauk

Comparison of x-ray and pathoanatomical findings in extensive lesions of lung tissue. Vrach.delo no.4:393-395 Ap '58 (MIRA 11:6)

1. Kiyevskiy rentgeno-radiologicheskoy i onkologicheskoy institut i kafedra patologicheskoy anatomii (zav. - ssal. deyatel' nauki, prof. M.K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey.
(LUNGS--DISEASES)

SILENCHUK, M.A., kand.med.nauk

Peripheral bronchogenic cancer and changes in the lungs in this
disease. Vrach. delo no.5:56-62 My '61. (MIRA 14:9)

1. Kiyevskiy rentgenoradiologicheskiy i onkologicheskiy institut
(konsul'tant raboty - zasluzhennyy deyatel' nauki, prof. M.K.Dal').
(BRONCHI--CANCER)

SILENCHUK, N.A.; ZNACHKOVSKIY, N.G.

Roentgenological observations in the treatment of metastases
of breast cancer in the lungs with androgenic hormones. Uch.
zap. KRROI 7:230-234, '61. (MIRA 16:8)
(BREAST—CANCER) (LUNGS—CANCER) (CHEST—RADIOGRAPHY)
(ANDROGENS)

SILENCHUK, A., polkovnik

For accurate work in organic transport. Tyl i snab. Sov.
Voor. Sil 21 no.11:62-66 N '61. (MIRA 15:1)
(Automobiles, Military—Maintenance and repair)

PASECHNIK, P.I.; SILENCHUK, M.A.

Diagnosis of the transposition of the aortal arch to the right
side. Vrach. delo no.9:109-10 S 6. (MIRA 16:10)

1. Rentgenodiagnosticheskiy otdel (rukovoditel' - starchiy
nauchnyy sotrudnik A.I.Pozmogov) Kiyevskogo nauchno-issledo-
vatel'skogo rentgeno-radiologicheskogo i onkologicheskogo in-
stituta.

(AORTA—ABNORMALITIES AND DEFORMITIES)

LEZNETOV, Nikolay Mikheylovich; SHENCHUK, S.M., PhD.

[Thermodynamic functions and shock adiabats of the air
at high temperatures] Termodinamicheskie funktsii i udarny-
adiabaty vozdukh pri vysokikh temperaturakh. Moskva, Ma-
shinostroyeniye, 1965. 462 p. (MIRA 19:1)

BULAVIN, I.A.; SILENIK, S.G.

[Equipment for manufacturing building materials] Oborudovanie d'ia
proizvodstva stroitel'nykh materialov. M. Mashgiz, 1954.
(Building materials) (MIRA 8:3)

SILENKA, V.

For parents about inculcating work habits ("Training school children
in work habits at home", I.A.Pechernikova. Reviewed by V.Silenka).
Rab. i sial.32 no.1:18 Ja '56. (MIRA 9:4)
(Children--Management)

SILENKO, O.I. [Sylenko, O.I.], kand.tekhn.nauk

System of direct injecting of gasoline into engine cylinders.

Mekh. sil'. hos. 9 no.4:31-32 Ap '58.

(MIRA 11:5)

(Automobiles--Engines)

SILENKO, O.I. [Sylenko, O.I.], kand.tekhn.nauk; DIDENKO, M.K., inzh.-mekhanik

Machinery for cultivating corn. Mekh.sil'.hosp. 11 no.3:19-21
Mr '60. (MIRA 13:6)
(Agricultural machinery) (Corn(Maize))

SILNIKO, O.I., kand.tekhn.nauk

Prospective types of the means of transportation. Mekh. sil'. hosp.
11 no.12:25-26 D '60. (MIRA 13:12)

(Tractors)

SILENKO, O.I. [Sylenko, O.I.], inzh.; VARSHAVSKIY, M.L.
[Varshavs'kyi, M.L.], tekhnik

Fast and safe. Mekh. sil'. hosp. 14 no. 9:18-19 S '63.
(MIRA 17:1)

SILINKO, O.I. [Sylenko, O.I.], kand.tekhn.nauk

New tractor trailers. Mekh. sil'. hosp. 14 no.6:31-32 Je '63.
(MIRA 17:3)

U.S. State Department: New York, 1961, 10 p.

RUSSIA, . . .

RUSSIA-250001

Role of the tillage plan in the production of high yields of fodder beets.
Korn. baza 3 no. 5 (1952)

9. RUSSIAN LIST OF RUSSIAN ACQUISITIONS, Library of Congress, September 1952. Uncl.

SILENKO, Z. V.

Beets and Beet Sugar

Sowing sugar beets in late fall. Korm. baza, 3, No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SILINIO, L. V.; LUKHARCHUK, V. V.

Caucasus, North ern - Feeding and Feeding Stuffs

Green fodder plan for sheep in the steppe zone of Northern Caucasus. Norm. baza 4,
No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

1. SILENKO, Z. V.
2. USSR (600)
4. Root Crops
7. Ways to obtain high yields of fodder root crops. Sots. zhiv. 15, No. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

USSR/Cultivated Plants - Fodders:

M-4

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91728

Author : Silenko, Z.V.

Inst : All-Union Scientific Research Institute for Sheep and Goat Raising.

Title : Certain Facts on the Cultivation of New Fodder Crops in the Arid Zone of Stavropol'.

Orig Pub : Byul. nauchno-tekhn. inform. Vses. n.-i. in-t ovtsevodstva i kozovodstva, 1956 (1957), No 3, (25), 104-111.

Abstract : Experiments on cultivating foxtail, African and Japanese millets were made in 1954-1956 at the kolkozoes "The Second Five-Year Plan" and Stalin Farm in Ipatovskiy Rayon, Stavropol'skiy Kray. Five sowings between April 20 and June 23 were covered by the study. The highest yield of all the crops tested was obtained from the May sowing.

Card 1/2

USSR/Cultivated Plants - Fodders.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53656

Author : Silenko, Z.V.

Inst : -

Title : Methods of Strengthening the Feed Reserves in the Steppe
Regions of the Northern Caucasus.

Orig Pub : Ovtsevodstvo, 1957, No 4, 27-31

Abstract : This article describes the experiment of the front
rank sheep raising establishments which strengthened
the feed reserves by means of artificial pastures and
by creating a "conveyer" of green feed. The leading
role in creating stable feed reserves for fine-fleeced
sheep raising belongs to corn. A great source for feed
storage is the intensification of field and fodder crop
rotations by means of closely spaced sowings (after
mowing, after harvesting, additional sowings). The
feed resources in the arid regions of the Northern

Card 1/2

COUNTRY : USSR
 CATEGORY : Cultivated Plants. M
 Grains. Legumes. Tropical Cereals.
 RES. JOUR. : RZhBiol., Vol 3, 1959, No. 10945
 AUTHOR : Silenko, Z. V.
 INST. : State Network of the Agricultural Experimental Stations*),
 TITLE : Sorghum Cultivation in Northern Caucasus.

 ORIG. PUB. : Vestn. s. kh. nauki, 1957, No. 4, 61-65.
 ABSTRACT : A summary of the experiments by the State Network of
 Agricultural Experimental Stations, The Plant Breeding
 Station of Stavropol' Kray and the Institute of Sheep and
 Goat Breeding with sorghum cultivation and a summary of
 the production experiments of kollektizas and sovkhхозas.
 The maximum yields were obtained with the sowing between
 the end of May and beginning of June at the sowing rate
 of 15 kilograms/ha. Upon deepening the plow layer to
 22-25 cm, the yield were boosted by 11% in comparison
 with the plowing depth of 22-25 cm. Of the annual crops,

 CARD: 1/2
 *) Plant Breeding Station of Stavropol' Kray,
 Institute of Sheep and Goat Breeding.

SILENKO, Z.V.

Growing winter vetch along with winter wheat in arid regions of Stavropol Territory. Zemledelie 6 no.8:64-65 Ag '58. (MIRA 12:11)
(Stavropol Territory--Wheat)
(Stavropol Territory--Vetch)

USSR / Cultivated Plants. Fodder Grasses and Edible
Roots. M

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24934

Author : Silenko, Z. V.

Inst : Not given

Title : Mixed Sowings of the Winter Vetch

Orig Pub : S.-kh. Sev. Kavkaza, 1958, No 9, 32-33

Abstract : No abstract given

Card 1/1

FAYNBERG, Ya.B.; KHIZHNYAK, N.A. [Khizhniak, M.A.]; Silenok, G.A.
[Silenok, Ho.O.]; BEREZIN, A.K.; NEKRASHEVICH, A.M.
[Nekrashevych, O.M.]

Spiral wave guide with an artificially anisotropic dielectric.
Part 1. Ukr.fiz.zhur. 4 no.4:451 J1-Ag '59. (MIRA 13:4)

1. Khar'kovskiy gosudarstvennyy universitet im.Gor'kogo.
(Wave guides) (Dielectrics)

BEREZIN, A.K.; NEKRASHEVICH, A.M. [Nekrashevych, O.M.]; SILENOK, G.A.
[Sylenok, H.O.]; FAYTBERG, Ya.B.; KHIZHNYAK, N.A. [Khyzhniak, M.A.]

Spiral wave guide with an artificially anisotropic dielectric.
Part 2. Ukr.fiz.zhur. 4 no.4:460-464 J1-Ag '59. (MIRA 13:4)

1. Khar'kovskiy gosudarstvennyy universitet im. Gor'kogo.
(Wave guides) (Dielectrics)

S/7E1/62/000/000/034/036

AUTHORS: Silenok-Bel'skiy, G. A., Dikiy, A. G., Solovchenko, S. I. Vitsenko, V. I.

TITLE: Measurement of electron concentration in a plasma at low frequencies

SOURCE: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady i konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tekhn. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR., 1962, 165- 167.

TEXT: A method has been developed for measuring the concentration and collision frequency of electrons by determining the change in impedance of a solenoid into which the plasma is introduced. The electromagnetic field of the sounding signal was given a configuration such as to avoid electric polarization. Several schemes for density measurements were tried, and the best turned out to be the usual method of measuring the Q of a resonant circuit. The experiments were carried out at pressures 10^{-1} - 10^{-2} mm Hg, and the densities measured were in the range from 4×10^9 to 5×10^{10} el/cm³. There are three figures.

Card 1/1

ACCESSION NR: AT4036076

S/2781/63/000/003/0337/0343

AUTHORS: Silenok-Bel'skiy, G. A.; Volkolupov, Yu. Ya.

TITLE: Decay of a plasma in a magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 337-343

TOPIC TAGS: Plasma decay, plasma magnetic field interaction, plasma diffusion, recombination, particle collision

ABSTRACT: The effect of the magnetic field on the diffusion of plasma in a direction transverse to the field was investigated in two series of experiments, one in fields up to 0.15 Tesla (1961) and the other up to 0.3 Tesla (in 1962). The theory underlying the experi-

Card 1/6

ACCESSION NR: AT4036076

ments and the experimental apparatus are described. The plasma was excited in a quartz tube 20 mm in diameter situated in a constant magnetic field, the homogeneous part of the magnetic field was 40 cm long in the first series of experiments and 150 in the second. The inhomogeneity did not exceed 1%. The decay of the plasma was determined from the shift of the natural frequency of the 10-cm resonator operating in the E_{010} mode. The quantity measured directly in the experiment was the change in the natural frequency of the resonator as a function of the time. The experimental plots of the diffusion against the magnetic induction, obtained for small degrees of plasma anisotropy ($B/p \lesssim 7.5 \times 10^{-4}$ Tesla-m²/n, where p is the pressure) indicate that diffusion transverse to the magnetic field is due to pair collisions. These results agree qualitatively with results obtained in the study of transverse diffusion in argon (A. Phelps, O. Fundingsland, S. Brown, Phys. Rev. v. 84, 559, 1951; V. S. Golubev, "Radiotekhnika i elektronika" v. 7, 153, 1962). In the case of strong

Card 2/6

ACCESSION NR: AT4036076

anisotropy ($B/p > 7.5 \times 10^{-3}$) the predominant mechanism is recombination. The recombination coefficient for hydrogen was found to be $2 \times 10^{-6} \text{ cm}^3/\text{sec}$. The relatively large recombination coefficient and the relatively broad region of transition from diffusion to recombination loss may imply the presence of additional losses in the case of strong anisotropy. Orig. art. has: 7 figures and 6 formulas.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 21May64

ENCL: 03

SUB CODE: ME

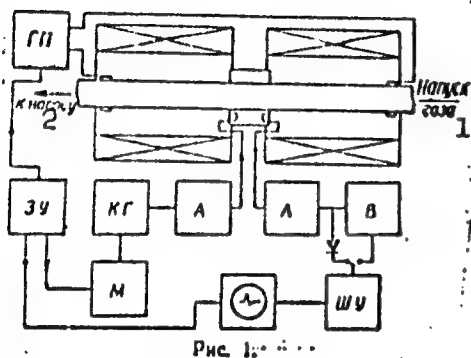
NR REF SOV: 005

OTHER: 006

Card 3/6

ACCESSION NR: AT4036076

ENCLOSURE: 01

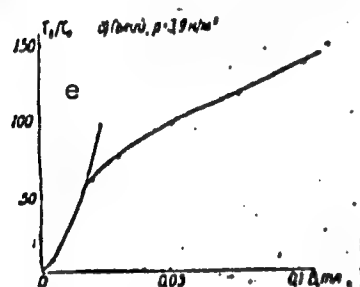
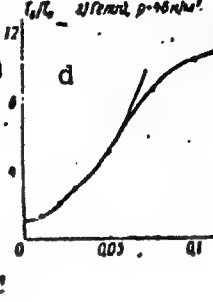
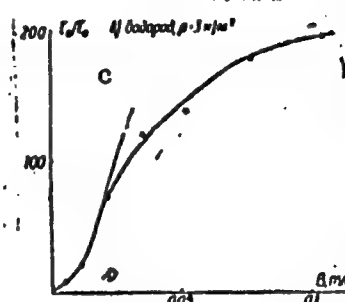
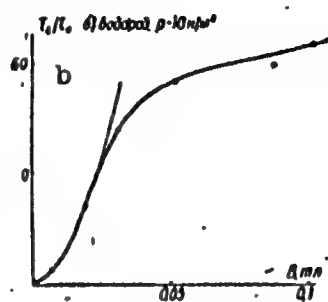
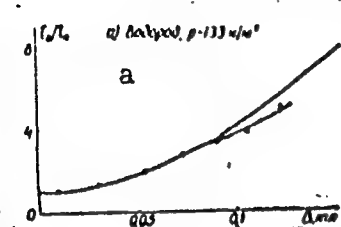


Experimental set-up: ГИ-ignition generator (~50 Mc, ~10 kw), ЗУ - triggering unit, КГ - klystron generator, А - attenuator, В - wave meter, М - modulator, ШУ - broad band amplifier, 1) Gas inlet, 2) to pump

Card 4/6

ACCESSION NR: AT4036076

ENCLOSURE: 02

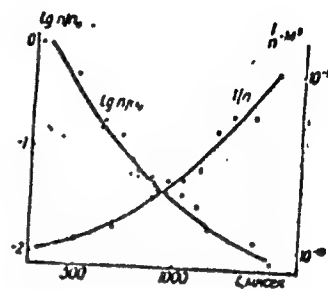
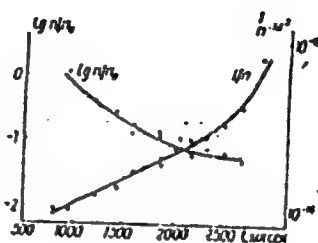
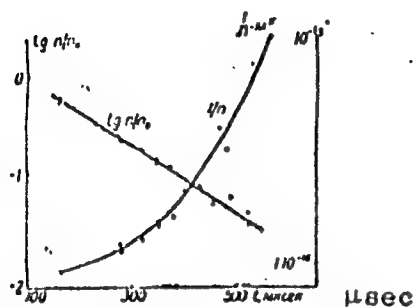


Ratio of characteristic time vs. magnetic induction (in Teslas). a - hydrogen, $p = 133 \text{ n/m}^2$, b - hydrogen, 10 n/m^2 , c - hydrogen, 3 n/m^2 , d - helium, 46 n/m^2 , e - helium, 3.9 n/m^2 .

Card 5/6

ACCESSION NR: AT4036076

ENCLOSURE: 03



Time variation (left to right): $B/p \lesssim 7.5 \times 10^{-3}$ Tesla- m^2/n ,
 $B/p \gtrsim 7.5 \times 10^{-3}$, and $7.5 \times 10^{-4} \lesssim B/p \lesssim 7.5 \times 10^{-3}$

Card 6/6

USSR/Engineering
Ceramics

Oct 48

"Vacuum-Press for the Manufacture of Ceramic Parts,"
S. G. Silenok, K. S. Sokolov, Engineers, 1 p

"Mekh Trud i Tyazh Rabot" No 10

Describes experimental model of SM-32 press, with
sketch. Tabulates principal dimensions and
performance of No 3 vacuum press.

21/19748

1. SILENOK, S. FINK, L.
2. USSR (600)
4. Stonecutting
7. Lowering the weight of stone-cutting machinery. Za ekon. mat. no 4: N '52.

9. Monthly List of Russian Accessions, Library of Congress, Feb. 1953. Unclassified.

Сиренко, С.С.

- 374 Oboyudovaniye dlya proizvodstva stroitel'nykh materialov.
(ucheb. posobie dlya uchashihikhsya tekhnikumov). M.,
Mashgiz. 1954. 615s. s ill.; 5 i. chert 23sm. 8.000 ekz.
15y. 55k. V per.-(54.54604) p 666.7/9.0025

SO: Knizhaya, Letopis, Vol. 1, 1955

SAPOZHNIKOV, M.Ya.; SILENOK, S.G.; LAPIR, F.A.; POLOMYEV, A.A.; GURVICH, E.A., red.izd-va; GILSON, P.G., tekhn.red.; SOLNTSEVA, L.M., tekhn.red.

[Machinery and equipment for making building products] Mekhanicheskoe oborudovanie dlia proizvodstva stroitel'nykh izdelii. Pod red. M.IA.Sapozhnikova. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1958. 556 p. (MIRA 12:3)

1. Zaveduyushchiy kafedroy "Mashiny i oborudovaniye zavodov stroymaterialov" Vsesoyuznogo zaochnogo inzhenerno-stroitel'nogo instituta (for Sapozhnikov).
(Construction industry--Equipment and supplies)

BULAVIN, Ivan Anisimovich; SILENOK, Sergey Georgiyevich; TRET'YAKOV,
I.M., inzh., retsenzent; KRIMERMAN, M.N., inzh., red.;
DANILOV, L.N., red.izd-vo; SOKOLOVA, T.F., tekhn.red.

[Machines for making building materials] Mashiny dlia proiz-
vodstva stroitel'nykh materialov. Izd.2., perer. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostroitel'noy, 1959. 464 p.

(MIRA 13:11)

(Building materials industry--Equipment and supplies)

SILENOK, S.G., inzh.

"Handbook on the equipment of building materials plants" by M.IA.
Saposhnikov, M.E. Drozdov. Reviewed by S.G. Silenok. Stroi. mat.
6 no.7:39-4^ J1 '60. (MIRA 13:7)
(Building materials industry—Equipment and supplies)
(Saposhnikov, M.IA.) (Drozdov, M.E.)

MAK, I.L.; RATINOV, V.B.; SILENOK, S.G.; YUSHKEVICH, M.O., nauchnyy
red.; CHERKINSKAYA, R.L., red. izd-va; SHERSTNEVA, N.V.,
tekhn. red.

[Manufacture of gypsum and gypsum products] Proizvodstvo gipsa
i gipsovykh izdelii. Moskva, Gos. izd-vo lit-ry po stroit.,
arkhit. i stroit. materialam, 1961. 199 p. (MIRA 15:2)
(Gypsum)

SAPOZHNIKOV, Matvey Yakovlevich; SILENOK, S.G., inzh., ratsenzent;
IONOV, P.M., inzh., red.; CHERNOVA, Z.I., tekhn. red.

[Machinery of the building materials industry; atlas of designs] Mashiny promyshlennosti stroitel'nykh materialov; atlas konstruktsii. Izd. 2., perer. i dop. Moskva, Mashgiz, 1961.
215 p. (MIRA 15:10)
(Building materials industry--Equipment and supplies)

SILENOK, S.G.; POLOMEYEV, A.A.; LAPIR, F.A.; GURVICH, E.A., red. izd-
va; KASIMOV, D.Ya., tekhn. red.

[Automation of the production of construction elements] Avtoma-
tizatsiia proizvodstva stroitel'nykh izdelii. Moskva, Gosstroi-
izdat, 1962. 109 p. (MIRA 15:7)
(Automation) (Building materials industry)

SAPOZHNIKOV, M.Ya.; Prinimal uchastiye FOLOMEYEV, A.A., inzh.; SILENOK,
S.G., retsenzent; SAVEL'YEV, Ye.Ya., red. izd-va; SOKOLOVA,
T.F., tekhn. red.

[Mechanical equipment for the production of building materials
and products] Mekhanicheskoe oborudovanie dlia proizvodstva
stroitel'nykh materialov i izdelii. Moskva, Mashgiz, 1962.
520 p. (MIRA 15:12)

1. Gosudarstvennyy komitet Soveta Ministrov SSSR (for Silenok).
(Building materials industry--Equipment and supplies)

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M.R.; SHUMAKHER, L.I.; YUSHKEVICH, M.O. [deceased]; AGEYENKO,
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izdat, 1963. 464 p. (MIRA 16:7)

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GOMLANOV, M.G., prepodavat.; POKAZAN'YEV, Aleksandr; ADAMOV, V.V., kand. ist. nauk, retsenzent; HULAGINA, G.A., kand. ist. nauk, retsenzent; BOROZDIN, Ye.A., red.; ZAVAROV, S.I., red.; POFOV, N.Ye., red.; KOGONIKIN, V.M., red.; SILENSKIY, T.N., red.; TARIKO, A.N., red.; KOLOSHITSYN, V., redaktor; YAKSIMOVA, E., tekhn. red.

[Revda stories; from the history of the Revda Hardware Manufacturing and Metallurgical Plant] Revdinskie vyli; iz istorii Revdinskogo metiznometallurgicheskogo zavoda. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1960. 154 p. (MIRA 15:8)

1. Sekretar' Revdinskogo gorodskogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Silenskiy).
(Revda--Metallurgical plants)

SILENY, Karel; DVORAK, Frantisek; SHANEL, Jan

Organization of the joinery production in Suchdol nad Luznici.
Drevo 18 no.8:301-305 Ag '63.

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SILERIENE, M.

Current status of child tuberculosis control in Lithuania
and immediate tasks. Sveik. apsaug. 9 no.3:4-8 Mr'64

1. Tuberkuliozes m.t. instituta.

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Current status of children's tuberculosis control in Lithuania
and its immediate tasks. Sveik. Apsaug. no.3:4-8 '64.

1. Lietuvos respublikinis tuberkuliozės mokslinio tyrimo
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I. 07817-67 ENT(m)/ENP(t)/ETI IJP(c) JD/HW

ACC NR: AR6017485

SOURCE CODE: UR/0137/66/000/001/0028/0028

AUTHOR: Popereka, M. Ya.; Siletskaya, K. A.

2.3
B

TITLE: Internal stresses in electrolytic deposits of cobalt

SOURCE: Ref. zh. Metallurgiya, Abs. 1G208

REF SOURCE: Sb. Elektroosazhd. met. i ul'trazvuk. mikrodefektoskopiya kristallov. Novosibirsk, 1965, 5-15

TOPIC TAGS: internal stress, cobalt, electrodeposition

ABSTRACT: Internal stresses in cobalt deposits were measured as a function of current density and temperature by tension and compression on a ribbon cathode. The electrolyte contained 175 g/l of a cobaltamine with an acidity of pH 3. It is found that stresses increase as J is raised to 3 a/dm², decrease from 3 to 4 a/dm² and increase again above 4 a/dm². Stresses are reduced by an increase in temperature in the 20-50°C range. There is a complex relationship between temperature and values of J which result in the experimentally determined stresses. The physical mechanism responsible for compression of cobalt deposits is principally a matter of the migration of dislocations toward grain boundaries. G. Svodtseva. [Translation of abstract]

SUB CODE: 20 11, 13

Card 1/1

UDC: 669.25.087

GILETCHAYA, M. A. Cand Med Sci -- (diss) "The Topographic Anatomy and Morphology of Venous Anastomoses of the Antebrachium." Riga, 1957. 22 pp with illustrations, 20 cm. (Min of Health of ~~XXXX~~ Latvian SSR, Riga Medical Inst), 300 copies (KL, 18-57, 98)

- 59 -

S-2

USSR/Human and Animal Morphology. Circulatory System

Abs Jour : Ref Zhur -- Biol., No 7, 1958, No 31293

Author : Silotsky, M.A.

Inst : ~~Not Given~~

Title : Anastomosis of Superficial Veins with Deep Connections Into the Ulnar Arter.

Orig Pub : Riga med. inst. Sb. nauchn. rabot Rzhsk. med. in-tr, 1957, 7, 119-128

Abstract : The topography of the surface of the ulnar arter was studied in 55 preparations of the upper human arm. The venous network of the ulnar arter is variable, but anastomosis between the deep and superficial veins is permanently accomplished through the deep middle vein, and was found in all preparations. The origin of this vein is located in the canal of the olecranon fossa, and is formed by means of the fusion of the radial and radial muscular veins. The middle section of the vein proceeds into the lateral part of the olecranon fossa, while the terminal-into the subfascial space. The locality

Card : 1/2

U.S.S.R./Human and Animal Morphology. Circulatory System

1-2

Als Jour : Ref Zhur - Biol., No 7, 1958, No 31293

of the junction of the v. mediana profunda is most often at the v. medina cubiti. Judging by the location of the canals, the transfer of the blood is accomplished from the deep veins to the superficial ones.

Card : 2/2

MEYERMAN, P.V.; SHVARTS, V.M.; BIRKH, A.V.; KILKIN, S.I.; SELETSKAYA,
N.V.

Photographic films for use in spectroscopy and astronomy
developed by the Kazan Branch of the Motion Picture and
Photography Scientific Research Institute. Izv. prikl.
spekt. 3 no.1:99-101 J1 '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut, Moskva.

USSR /Chemical Technology. Chemical Products
and Their Application

I-11

Electrochemical manufacturing. Electrodeposition.
Chemical sources of electrical current

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31417

Author : Bogoyavlenskiy A.F., Siletskaya N.V.

Title : Effect of Anodic Passivation Method and Electrolyte
Concentration on Porosity of Al_2O_3 Film

Orig Pub: Zh. Prikl. Khimii, 1956, 29, No 8, 1295-1297

Abstract: Studies of the porosity (P) of anodic Al_2O_3 films
formed on sheets of Al (D-16-T alloy) by the sul-
furic acid (SA), chromic acid (CA) and the carbon-
ate (C) methods. P of the films was determined by
filling with mineral oil (Tomashov, Byalobzheskiy,
Tr. in-ta fiz. khimii, AN SSSR, 1951, 3, 17). P of

Card 1/2

USSR /Chemical Technology. Chemical Products
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I-11

Electrochemical manufacturing. Electrodeposition.
Chemical sources of electrical current

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31417

the films was determined by filling with mineral oil (Tomashov, Bualobzheskiy, Tr. in-ta fiz. khimii, AN SSSR, 1951, 3, 17). P of films formed by the SA and C method, increases with increasing concentration of the electrolyte, while that of films formed by the CA method is little dependent on the concentration. The following "porosity series" of film was ascertained under standard operating conditions of the cells: FSO_4^- PCrO_4^- PCO_3^- . See also RZhKhim, 1954, 28573.

Card 2/2